Panasonic
ideas for life

For up to eight cameras, with up to 320GB of storage, Ethernet compatible.

Digital Disk Recorder WJ-HD220

A Wide Variety of Basic Features, Plus Smoother Control from Your PC.

High image quality with minimal degradation no matter how many times you record and play back. No need to change and store tapes, so costs are lower.

Quick retrieval of exactly the scenes you want. Plus, full-featured surveillance capability. This advanced hard disk storage system makes recording simple, and easy.

R e c o r d i n g

Stores up to about three (3) years of continuous input from up to eight cameras (NORMAL 720H x 240V Mode, Normal Recording Mode, 0.1 FPS)

The WJ-HD220/32 comes with a 320GB hard disk as standard equipment. That's enough storage for up to about three (3) years (1,080 days) of continuous image data input* from eight cameras. Once installed, addressing is automatic. No additional operations are required.
The WJ-HD220/16 comes with a 160GB hard disk as standard equipment, with the option of adding a second 160GB disk. *See the DISK DATA REFERENCE CHART at the foot of this page.
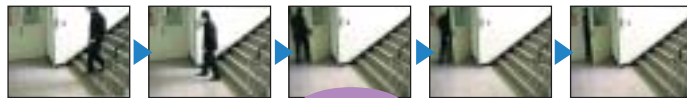
Twice as long in SIF Mode
The WJ-HD220 Series also support SIF (352H x 240V) Mode, which reduce image data volume by half, thus doubling the number of days / hours of data that the hard disk can store.
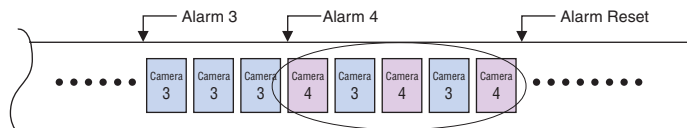
Cache captures images before sensor signals movement

Pre-Alarm Screen

This feature allows you to view images from up to five seconds before alarm signals are received from external sensors or motion detectors.
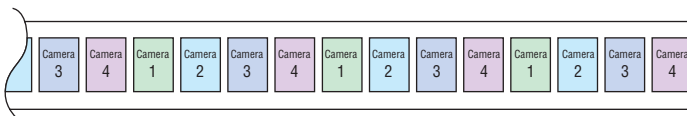
Sensor Signal received

Recording Start

When multiple alarms are received, images from all alarmed cameras are captured.

Alarm 3   Alarm 4   Alarm Reset

Camera 3 | Camera 3 | Camera 3 | Camera 4 | Camera 3 | Camera 4 | Camera 3 | Camera 4

Time-lapse Images

This feature allows you to pre-set each camera to capture images at pre-determined intervals.

Camera 3 | Camera 4 | Camera 1 | Camera 2 | Camera 3 | Camera 4 | Camera 1 | Camera 2 | Camera 3 | Camera 4 | Camera 1 | Camera 2 | Camera 3 | Camera 4
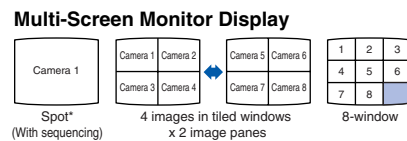
L i v e   M o n i t o r i n g

Coaxial cabling supports direct control of cameras

Connecting the WJ-HD220 Series directly to Panasonic PTZ cameras through channels 1 to 4 allows direct control of cameras with the System Controllers WV-CU650 or WV-CU360C (optional).

Panasonic PTZ Cameras
1ch 2ch 3ch 4ch 5ch 6ch 7ch 8ch

WV-CU650   WJ-HD220
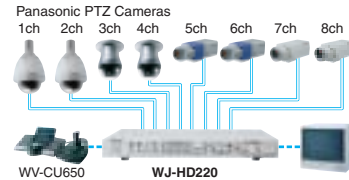
Choose Multi-screen or Spot Monitor / or Both

On the back of the WJ-HD220 Series you will find two monitor output connectors, one for a Spot Monitor and one for a Multi-screen Monitor. The Multi-Screen Monitor allows you to view images from several cameras at once.
*Independent Spot and Multi Monitor outputs allow monitoring of images from individual cameras.

Multi-Screen Monitor Display

Camera 1

Spot*
(With sequencing)

| Camera 1 | Camera 2 |
| Camera 3 | Camera 4 |

| Camera 5 | Camera 6 |
| Camera 7 | Camera 8 |

4 images in tiled windows x 2 image panes

1	2	3
4	5	6
7	8	

8-window

S e a r c h   &   P l a y b a c k
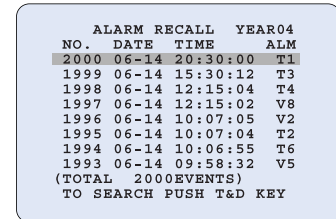
Instantly retrieve the scenes you want to see

Direct (Time & Date) Search

Enter year, month, day and time. The system plays back the closest image to the date and time you specify.

```
04-05-07 20:30:00
TO SEARCH,PUSH PLAY KEY
```
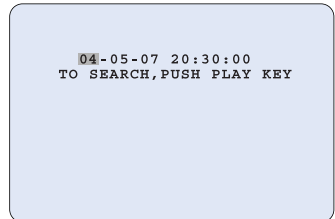
List Search

Display list of times when alarm signal was received. Just click on the one you want to play back.

```
     ALARM RECALL   YEAR04
NO.  DATE   TIME      ALM
2000 06-14 20:30:00   T1
1999 06-14 15:30:12   T3
1998 06-14 12:15:04   T4
1997 06-14 12:15:02   V8
1996 06-14 10:07:05   V2
1995 06-14 10:07:04   T2
1994 06-14 10:06:55   T6
1993 06-14 09:58:32   V5
(TOTAL  2000EVENTS)
TO SEARCH PUSH T&D KEY
```

Easy back-up with a VCR

The front panel is equipped with a video output connector. To copy images stored in the WJ-HD220 Series, hook up a VCR, video camera or printer.

N e t w o r k

The WJ-HD220 Series are equipped with a 10Base-T/100Base-TX interface as standard equipment, allowing remote control from a Microsoft® Internet Explorer browser via the Internet, an LAN or WAN.

Main Control Panel   Network Status Display   Channel Number Display (CH)   Recorder Status Display

Alarm List Tab
WJ-HD220

Camera Select Button

Multi-screen Select Button

LIVE SEQUENCE Button

TIME & DATE SEARCH Button

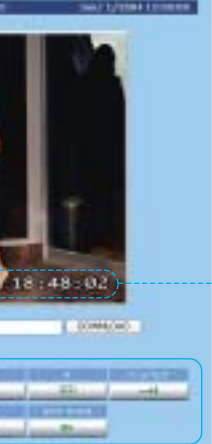CAMERA CONTROL VIEW Button

SETUP MENU Button

Recorder Control Buttons

Standard Network Features
- Live Monitoring
- Recording
- Playback recorded image
- Camera Control
- Time & Date / List Search
- Image storage on a PC
- Alarm notification
- Setup

Embedded date and time stamp display

Embedding the date and time in the JPEG image enhances reliability. When used as evidence, it strengthens criminal cases.

Setup is Simple

Just click on the setup menu button and the menu opens. The menu makes it easy to select the WJ-HD220 Series and network settings you need.
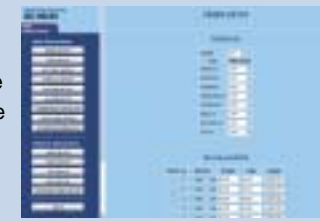
Alarm List Search Feature

Use date, time and camera channel to quickly search a list of up to 9,999 alarms.

FTP Viewer Software WV-AS20 (optional)

Installation of the optional WV-AS20 software allows you to download image data stored in the WJ-HD220 Series.

- Up to 10 WJ-HD220 Series Digital Disk Recorders can be registered.
- Images can be automatically downloaded at pre-set times.
- The zoom feature enlarges images up to 5x.

Loaded with Handy Surveillance Features

Multi-language Capability
The OSD Setup, installation menus and HTML can be displayed in seven languages: English, German, French, Italian, Spanish, Russian*, and Chinese*.
*Russian and Chinese in HTML only

Simultaneous Recording, Playback, Live or Network
Recording continues during playback, live monitoring, and network operations.

Electronic Zoom
Both played back and live images can be zoomed 2x or 4x* to examine details.
*2x only in SIF Mode

Motion Detector Feature
Sensor detects movement in the area under surveillance and automatically displays the scene.

DISK DATA REFERENCE CHART NTSC Color Video Signal, 320GB, Audio Signal: Off

Pixels : 720H x 240V — NORMAL Mode

Recording Mode	Hours (Days)		48 (2)	72 (3)	96 (4)	120 (5)	180 (7.5)	240 (10)	480 (20)	960 (40)	1,440 (60)	2,160 (90)	4,320 (180)	6,480 (270)	8,640 (360)	25,920 (1,080)
Extended	FPS		–	–	30.0	–	15.0	10.0	6.0	3.0	–	–	0.5	–	–	0.1
Normal	FPS		–	30.0	–	–	–	10.0	5.0	–	–	1.0	0.5	–	–	0.1
Fine	FPS		–	30.0	–	15.0	10.0	7.5	3.0	2.0	–	1.0	0.5	–	0.1	–
Super Fine	FPS		30.0	–	–	15.0	10.0	5.0	–	1.0	–	1.0	–	–	0.1	–

(FPS : Frame Per Second)

Pixels : 720H x 240V — NORMAL Mode

Capture Rate	FPS	30.0	15.0	10.0	7.5	6.0	5.0	3.0	2.0	1.0	0.5	0.1
Extended	Hours	105	210	310	420	520	630	1,050	1,580	3,160	6,320	31,640
Normal	Hours	87	175	260	350	430	520	870	1,310	2,630	5,270	26,370
Fine	Hours	79	155	230	310	390	470	790	1,180	2,370	4,740	23,700
Super Fine	Hours	63	125	185	250	310	370	630	940	1,890	3,790	18,950

(Hours)

Pixels : 352H x 240V — SIF Mode

Recording Mode	Hours (Days)		120 (5)	180 (7.5)	240 (10)	480 (20)	960 (40)	1,440 (60)	2,160 (90)	4,320 (180)	6,480 (270)	8,640 (360)	34,560 (1,080)	43,200 (1,800)	51,840 (2,160)	60,480 (2,520)
Extended	FPS		–	30.0	15.0	10.0	6.0	3.0	–	–	0.5	–	–	0.1			
Normal	FPS		–	–	15.0	10.0	5.0	3.0	2.0	1.0	–	0.5	–	–	0.1		
Fine	FPS		30.0	–	15.0	7.5	–	3.0	2.0	1.0	–	0.5	–	0.1			
Super Fine	FPS		30.0	–	15.0	7.5	–	2.0	–	0.5	–	0.1	–				

(FPS : Frame Per Second)

Pixels : 352H x 240V — SIF Mode

Capture Rate	FPS	30.0	15.0	10.0	7.5	6.0	5.0	3.0	2.0	1.0	0.5	0.1
Extended	Hours	210	420	630	840	1,050	1,260	2,100	3,160	6,320	12,650	63,290
Normal	Hours	175	350	520	700	870	1,050	1,750	2,630	5,270	10,540	52,740
Fine	Hours	155	310	470	630	790	940	1,580	2,370	4,740	9,480	47,410
Super Fine	Hours	125	250	370	500	630	750	1,260	1,890	3,790	7,580	37,900

(Hours)

(above figures are approximately, actual recording time may differ.)

SYSTEM EXAMPLES
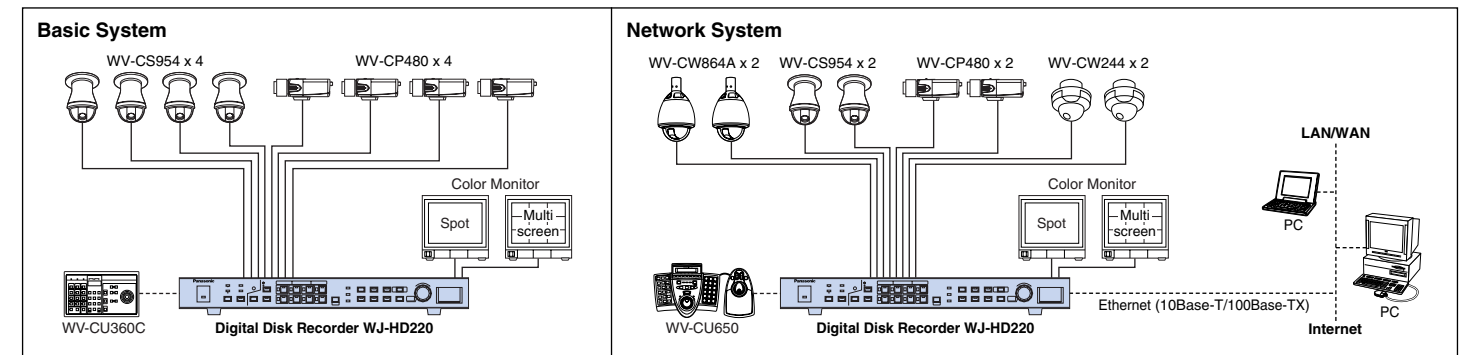
Basic System

WV-CS954 x 4   WV-CP480 x 4

Color Monitor

Spot | Multi-screen

WV-CU360C   Digital Disk Recorder WJ-HD220

Network System

WV-CW864A x 2 WV-CS954 x 2 WV-CP480 x 2 WV-CW244 x 2

LAN/WAN

Color Monitor

Spot | Multi-screen

PC

WV-CU650   Digital Disk Recorder WJ-HD220

Ethernet (10Base-T/100Base-TX)

Internet   PC

All photographs and menus are simulated and shown for the purpose of explanation. Actual images may differ.

MAJOR OPERATING CONTROLS & TERMINALS

Front View

Rear View

① Operate Indicator
② Alarm Indicator
③ Alarm Suspension Indicator
④ Alarm Reset Button
⑤ Timer Indicator
⑥ Remote Indicator
⑦ Lock Button
⑧ Daylight Saving Time
⑨ On Screen Display Button
⑩ Monitor Selection Button
⑪ Sequence Button
⑫ Camera Selection Buttons
⑬ Multiscreen Selection Button
⑭ HDD Access Indicator
⑮ FULL Indicator
⑯ Error Indicator
⑰ Stop and Setup/Escape Button
⑱ Playback Button
⑲ Recording Button
⑳ Recording Stop Button
㉑ Alarm Search Button
㉒ Step Playback & Down Button
㉓ Skip Playback & Up Button
㉔ Time and Date Search Button
㉕ JogDial
㉖ Audio Out
㉗ Video Out
㉘ Audio Input Connector
㉙ Audio Output Connector
㉚ Video Input Connector
㉛ Video Output Connector
㉜ Spot Output Connector
㉝ Multiscreen Output Connector
㉞ Alarm/Remote Port
㉟ RS232C Port
㊱ Mode Setup DIP Switch
㊲ 10Base-T/100Base-TX
㊳ Data Port
㊴ Cooling Fan
㊵ Power Switch
㊶ Signal Ground Terminal
㊷ Power Cord

Alarm/Remote Connection

① Alarm Reset In
② Alarm In 1
③ Alarm In 2
④ Alarm Recovery Out *1
⑤ Alarm Recovery Out 2
⑥ Alarm Out 1
⑦ Alarm Out 2 *2
⑧ Disk End Out
⑨ Warning Out
⑩ Alarm In 3
⑪ Alarm In 4
⑫ REC Status Out
⑬ Time Adjust In
⑭ Time Adjust Out
⑮ Alarm In 5
⑯ Alarm In 6
⑰ Alarm In 7
⑱ Alarm In 8
⑲ Signal GND
⑳ Signal GND
㉑ Play Status Out
㉒ EXT REC MODE In
㉓ No Connection
㉔ Sequence In
㉕ Sequence Out

SPECIFICATIONS

General

Power Source Required	120 V AC, 60 Hz
Power Consumption	45 W
Ambient Operating Temperature	+5 °C - +45 °C (41 °F - 113 °F)
Ambient Operating Humidity	Less than 85 %
Dimensions	420 mm (W) x 44 mm (H) x 350 mm (D) [16-9/16" (W) x 3-7/16" (H) x 13-3/4" (D)]
Weight	5.2 kg (11.4 lbs.)

Input

Video Input	1.0 V[p-p]/75 Ω Composite video signal with 75 Ω Automatic Termination / Looping through (x8)
Audio Input	−10 dB 10 kΩ unbalanced, RCA standard jack

Image Process

Compression System	JPEG
Pixel Rate	Normal; 720H x 240V (Effective pixels 672H x 224V)
	SIF; 352H x 240V
Refresh Rate	30 FPS maximum

Output

Video Output	1.0 V[p-p]/75 Ω Composite video signal/Looping through (x8)
Video Output Front Panel	1.0 V[p-p]/75 Ω Composite video signal (x1)
Audio Output	−10 dB 600 Ω unbalanced, RCA standard jack (x1)
Audio Output Front Panel	−10 dB 600 Ω unbalanced, RCA standard jack (x1)
Spot Monitor Output	1.0 V[p-p]/75 Ω Composite video signal (x1)
Multiscreen Monitor Output	1.0 V[p-p]/75 Ω Composite video signal (x1)

Control Port

Alarm/Remote Port	25-pin Full Pitch D-sub connector (x1)
	Alarm Input 1-8, Alarm Reset Input, EXT REC Input, Time Adjust Input, Sequence Input: Low-active, Non-voltage N.O. Contact, ≥100 ms
	Alarm Recovery Output 1, Disk End Status Output, Time Adjust Output, Warning Output, REC Status Output, Sequence Output: Low-active, Open-collector, 24 V DC 100 mA max.
	Alarm Output 1, Play Status Output: Low-active, Open-collector, 12 V DC 100 mA max.
	Alarm Output 2: High-active, 12 V 4.7 kΩ
	Alarm Recovery Output 2: High-active, 12 V DC 220 Ω
RS-485 (PS • Data)	6-conductor modular jack (RJ-11)
RS-232C	9-pin D-sub connector
10/100BASE-TX Port	10Base-T and 100Base-TX, 8-conductor modular jack (RJ-45)
	Protocol Installed: TCP/IP, HTTP, FTP, SMTP, SNMP, DNS, DDNS
	Security: Password-protected

Hard Disk Drive

Built-in	320GB (160GB x 2), or 160GB x 1

STANDARD PRODUCT CONFIGURATIONS

WJ-HD220/32	WJ-HD220/16
• 8-channel camera inputs • 320GB HDD • Built-in Ethernet port	• 8-channel camera inputs • 160GB HDD, and 1 drive bay for optional HDD unit • Built-in Ethernet port

Trademarks • Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation in the U.S. and/or other countries.

APPEARANCE

Unit: mm (inches)
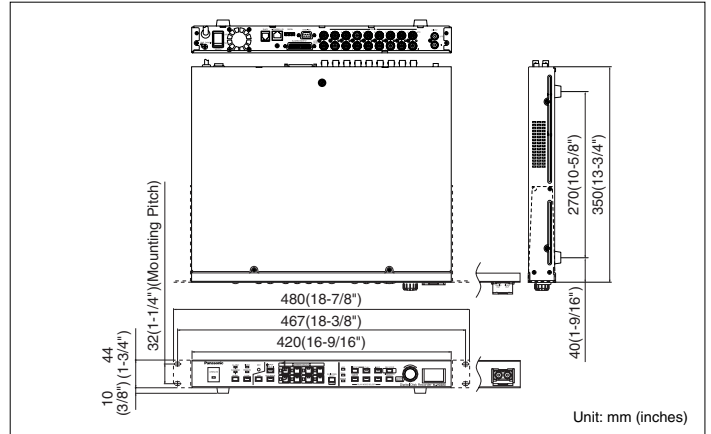
OPTIONAL COMPONENTS & ACCESSORIES

Super Dynamic III
Color Dome Camera
WV-CS954

Super Dynamic III
Color Surveillance Cameras
WV-CP480 Series
(Lens: option)

FTP Viewer Software
WV-AS20

Weather Proof &
Vandal Resistant
Color Dome Camera
WV-CW864A

1/3-type DSP
Color CCD Cameras
WV-CP240 Series
(Lens: option)

System Controllers
WV-CU650

Vandal Proof
Super Dynamic II Color Cameras
WV-CW474A Series

Vandal Proof
Color Cameras
WV-CW244 Series

WV-CU360C

PS·Data

Important – Safety Precaution: carefully read the operating instructions and installation manual before using this product.
– Panasonic can not be responsible for network performance and/or other manufacturer products that reside on the network.
• All photographs and menus are simulated and shown for the purpose of explanation. Actual images may differ.
• Weights and dimensions are approximate. • Specifications are subject to change without notice. • This product is subject to export control regulations.